

REMARKS

Applicants thank the Examiner for the consideration given to the present application. Claims 1-8 and 10 - 17 are pending in this present application.

Double Patenting

Claims 1 – 8 and 10 – 17 stand rejected¹ on the grounds of nonstatutory obviousness-type double patenting as being unpatentable over claims 1 – 7 of U.S. Patent 7,450,087 to Knudsen (“Knudsen”). This rejection is respectfully traversed.

Applicants respectfully submit that independent claim 1 requires “a custom-made shell part” and independent claims 1 and 10 both require a specific arrangement between the antenna and the battery such that the battery shields the antenna from the other hearing-aid components and serves as a ground plane for the antenna. Such concepts are wholly and completely missing from Knudsen’s claims 1 – 7. There is no specific discussion in Knudsen’s claims of electromagnetically shielding the antenna nor using the battery as a ground plane. Knudsen’s claims are also totally silent regarding whether the shell part is custom-made. Applicants therefore respectfully submit that these aspects of the presently pending claims cannot be rendered obvious by Knudsen’s claims because Knudsen lacks any teaching or suggestion of the custom-made shell aspect of claim 1 or the battery shielding / grounding aspects of claims 1 and 10. Accordingly, reconsideration and withdrawal of this rejection is respectfully requested.

Claim Rejections under 35 U.S.C. § 103 – Maltan, Bartschi, and Adelman

Claims 1, 2, and 7 are rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent Publication 2003/0086583 by Maltan et al. (“Maltan”) in view of U.S. Patent 5,734,976 to Bartschi et al. (“Bartschi”) in further view of U.S. Patent 5,390,254 to Adelman (“Adelman”). Insofar as it pertains to the presently pending claims, this rejection is respectfully traversed.

¹ The Office Action refers to this as a provisional rejection, however the alleged duplicative claims are in an issued patent. Applicants therefore believe a provisional rejection is improper in this case. See MPEP §804, Chart II-B

Claim 1

Independent claim 1 pertains to an in-ear communication device having “a custom-made shell part enclosing an input transducer for receiving an input signal” and “a planar antenna for radiating and/or receiving electromagnetic energy” with the “antenna and battery further being situated in close proximity to each other such that the battery is an electromagnetic shield between the antenna and other parts of the communication device circuitry, thereby preventing the antenna from becoming de-tuned as a result of variations in the position of the other circuitry in the device, and also such that the battery is a ground plane for the antenna.”

No Custom-Made Shell Part

The Office Action is completely silent with respect to which of the applied references it relies upon for a teaching of a custom-made shell part. Applicants respectfully note that none of Maltan, Bartschi, or Adelman teach or suggest “a custom-made shell part” as required by independent claim 1.

No Planar Antenna

The Office Action admits that neither Maltan nor Bartschi teach a planar antenna and relies on Adelman for this teaching. Specifically, the Office Action relies on Adelman’s Fig. 1E, element 78, which is disclosed as a loop antenna (Col. 11, lines 32 – 35). Applicants respectfully submit that although Fig. 1E is a top-view depiction, there is nothing in Adelman that teaches or suggests the loop antenna is a planar antenna. Adelman is completely silent in this regard. Applicants therefore respectfully submit that ascribing planar antenna characteristics to Adelman’s loop antenna is purely speculative and unsupported by Adelman’s teachings.

No Antenna Ground Plane

Independent claim 1 also requires “that the battery is a ground plane for the antenna.” The Office Action attempts to cite Maltan at Fig. 1, element 10 at terminal f as evidence of a battery serving as a ground plane. There is no such depiction in Maltan. Maltan is completely

silent with respect to any kind of electromagnetic interaction between the battery and the antenna. Bartschi, however, does contain a Fig. 1 having element 10 with connection point f. Applicants therefore understand that the Office Action meant to rely on Bartschi for this teaching instead of Maltan.

Bartschi depicts a battery having positive and negative terminal connection points (Fig. 1, elements e and f; Col 6, line 44). The connection points depicted are “connected to further components mounted on a printed circuit board.” (Col. 4, lines 30 – 32). Neither the drawing figures nor discussion thereof in Bartschi teach or suggest that the power source (Fig. 1, element 10) is arranged “as a ground plane for the antenna” as required by independent claim 1.

In the present Application, the battery is being used as a ground plane for an antenna – an electromagnetically radiating structure. One of ordinary skill in the art would readily and immediately appreciate that an antenna ground plane is a structure that enables and facilitates antenna function. Even if the battery connection points in Bartschi are connected to ground terminals or similar structures, there is absolutely no interaction shown or suggested between Bartschi’s antenna (Fig. 1, element 18) and battery (Fig. 1, element 10) except that the battery provides power through a voltage multiplier (Fig. 1, element 15).

Applicants therefore respectfully submit that Bartschi fails to teach or suggest a battery that serves as an antenna ground plane. Specifically, there is nothing in Bartschi that would indicate to one of ordinary skill in the art “that the battery is a ground plane for the antenna” as required by independent claim 1.

Claims 2 and 7

Applicants respectfully submit that claims 2 and 7 are allowable at least by virtue of their dependency from independent claim 1.

Summary

At least in view of the above, Applicants respectfully submit that none of the references, taken either alone or in combination (assuming the references may be combined, which Applicants do not admit), teach or suggest “a custom made shell part,” “a planar antenna,” or

“that the battery is a ground plane for the antenna” as required by independent claim 1 and all claims depending therefrom. Accordingly, reconsideration and withdrawal of this rejection is respectfully requested.

Claim Rejections under 35 U.S.C. § 103 – Maltan and Adelman

Claims 10, 11, and 16 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Maltan in view Adelman. This rejection is respectfully traversed.

Claim 10

Independent claim 10 pertains to “a method of shielding a planar antenna in a hearing aid from de-tuning or electromagnetic noise effects caused by other components in the hearing aid, the method comprising ... disposing the planar antenna, which is part of a transmission and reception circuit, in close proximity to a battery situated inside the hearing aid such that the planar antenna has one surface facing in a sound-gathering direction of the heading aid and an opposite surface facing towards the battery, said preventing including electromagnetically shielding the planar antenna with respect to the other hearing aid components and arranging the battery as a ground plane for the antenna.”

No Planar Antenna

Independent claim 10 requires a “planar antenna.” The Office Action admits that Maltan fails to teach a planar antenna and instead relies on Adelman for this teaching. As noted with respect to independent claim 1, there is nothing in Adelman that indicates the antenna loop is planar. Adelman is completely silent with respect to the structure of the antenna loop. Any attempt to characterize it as specifically a planar antenna is therefore speculative and beyond what Adelman teaches.

No Antenna Ground Plane

Independent claim 10 also requires that the battery act “as a ground plane for the antenna.” The Office Action attempts to cite Maltan at Fig. 1, element 10 at terminal f as evidence of a battery serving as a ground plane. As noted with respect to independent claim 1, there is no such depiction in Maltan. The depiction referenced occurs only in Bartschi.

Applicants note that the rejection of claims 10, 11, and 16 specifically omits Bartschi and is based solely on Maltan and Adelman. Applicants therefore respectfully submit that this rejection is clearly incorrect and deficient as it attempts to include teachings from a reference not used in the rejection.

Applicants further note that even if Bartschi were applied as prior art against independent claim 10, Bartschi nonetheless fails to teach or suggest “arranging the battery as a ground plane for the antenna” as required by independent claim 10 for at least the same reasons set forth with respect to independent claim 1. Specifically, there is absolutely no structural arrangement in Bartschi that indicates the battery (Fig. 1, element 10) is positioned as an antenna ground plane with respect to the antenna (Fig. 1, element 18).

Claims 11 and 16

Applicants respectfully submit that claims 11 and 16 are allowable at least by virtue of their dependency from independent claim 10.

Summary

At least in view of the above, Applicants respectfully submit that none of the references, taken either alone or in combination (assuming the references may be combined, which Applicants do not admit), teach or suggest a “planar antenna” or “arranging the battery as a ground plane for the antenna” as required by independent claim 10 and all claims depending therefrom. Accordingly, reconsideration and withdrawal of this rejection is respectfully requested.

Claim Rejections under 35 U.S.C. § 103 – Dependent Claims

Claims 3 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maltan in view of Bartschi and Adelman and further in view of U.S. Patent Publication 2008/0095387 by Niederdrank (“Niederdrank”).

Claims 4-6 are rejected under 35 U.S.C. as being unpatentable over Maltan in view of Bartschi and Adelman and further in view of Worldwide Patent Publication WO 99/48330 to Van Vroenhoven (“Van Vroenhoven”).

Claims 12 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maltan and Adelman in view of Niederdrank.

Claims 13-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maltan and Adelman in view of Van Vroenhoven.

Insofar as they pertain to the presently pending claims, these rejections are respectfully traversed.

Applicants respectfully submit that claims 3 – 6, 8, 12 – 15, and 17 are allowable at least by virtue of their dependency from independent claims 1 and 10. Accordingly, reconsideration and withdrawal of this rejection is respectfully requested.

Conclusion

In view of the above amendment, applicant believes the pending application is in condition for allowance.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Naphtali Matlis Reg. No. 61,592 at the telephone number of the undersigned below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37.C.F.R. §§1.16 or 1.17; particularly, extension of time fees.

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Respectfully submitted,

By 

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